EFFECTS OF THE 1981 TAX ACT ON THE DISTRIBUTION OF INCOME AND TAXES PAID

Staff Working Paper

August 1986

The Congress of the United States
Congressional Budget Office

This study was written by Eric Toder, Rosemarie Nielsen and Frank Sammartino of the Tax Analysis Division, under the supervision of Rosemary Marcuss. Others in the Tax Division who contributed to the study were Kathryn Wilson, Peter Neumann, Kevin P. Beagan, and Daniel Rich. The authors are grateful to David Delquadro, Harvey Galper, Edward Gramlich, Robert Hartman, Richard Kasten, Donald Kiefer, Joseph Minarik, Kenneth Simonson, Eugene Steuerle for helpful comments on earlier drafts. Earlier drafts of the study used results of computer simulations performed for CBO by the Joint Committee on Taxation and the Brookings Institution and of distributional data produced by the Statistics of Income Division of the Internal Revenue Service. The paper was edited by Francis Pierce and the manuscript was typed and prepared for publication by Linda Brockman. Questions regarding this analysis may be addressed to Eric Toder (226-2683), Rosemarie Nielsen (226-2690), and Frank Sammartino (226-2692).

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SUMMARY

In the Economic Recovery Tax Act of 1981 (ERTA), the Congress lowered the top marginal tax rate on individual income from 70 to 50 percent, reduced other marginal tax rates by 23 percent over a three-year period, and enacted a number of other provisions that reduced individual tax payments and lowered taxes on the business income of both individuals and corporations. The corporate tax reductions in ERTA were partially offset later by the provisions of the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA).

ERTA also provided for indexation of personal exemptions, the zero bracket amount (ZBA), and the width of tax brackets to changes in the Consumer Price Index beginning in 1985. Because indexing did not take effect immediately, however, the real value of personal exemptions, the ZBA, and bracket widths continued to decline between 1980 and 1984.

This paper examines the effects of ERTA and TEFRA on changes in the distributions of individual income tax payments and after-tax incomes between 1980 and 1983. The total change in the distribution of tax payments is separated into a "static" component attributable only to the tax changes, and a component labelled "feedback and other" that is attributable to changes in the distribution of pretax income. The latter changes reflect effects of the tax changes on the percentage of income received in taxable forms in different income classes, and the effects of changes in economic conditions. Particular attention is directed toward behavioral responses, especially those for taxpayers in the upper 1 percent of the income distribution.

OVERALL DISTRIBUTIONAL CHANGES

Between 1980 and 1983, the share of individual income taxes paid by taxpayers in the top 1 percent of the income distribution increased from 19.1 percent to 20.6 percent. This increase occurred even though the group experienced the largest reduction in average tax rates. Other taxpayers in the top half of the income distribution paid a lower share of taxes over this period, notably those between the 2nd and 25th percentiles of the income distribution, whose share fell from 54.1 percent to 52.7 percent. The share of taxes paid by taxpayers in the next highest quartile fell slightly, while the share of taxes paid by taxpayers in the bottom half of the income distribution increased slightly from 6.9 percent to 7.0 percent.

The principal reason why those in the top percentile paid an increased share of taxes was that their incomes grew faster. Income for this group increased by 42.4 percent between 1980 and 1983, compared to a 24.5 percent growth for income averaged over all returns. A major component of this relatively greater income growth was realized capital gains. For the top percentile, realized capital gains increased by 89 percent between 1980 and 1983 and were responsible for more than the entire difference between the growth in income in the top percentile and the growth averaged over all returns.

The tax system was less progressive in 1983 than in 1980, despite the increased share of taxes paid by the top percentile. Summary measures based on the distribution of after-tax income, arguably the best way to determine progressivity, show that the distribution of after-tax income was less equal in 1983 and that the tax system had a smaller effect in reducing inequality.

It is important to note that an increase in the share of after-tax income received by high-income groups does not necessarily mean that other groups are becoming worse off in absolute terms. Tax reductions that raise the income share and tax payments of upper income groups can also increase the after-tax incomes of lower income groups if (1) increased saving or work effort by those in the top bracket, by adding to the capital stock or the availability of skilled labor, increases real wages for all groups over time or (2) if higher tax payments by upper-income groups allow for larger tax reductions for lower-income groups. The first of these effects would be expected to appear only in the longer term, while the second would occur only as a result of subsequent legislative action.

Such effects cannot be detected in the 1980-1983 data. During this period, the real after-tax income per return in the bottom half of the income distribution declined by almost 3 percent and remained virtually constant for returns in the next highest 25 percent of the income distribution. For the top percentile of returns, the increase in real after-tax income per return was almost 23 percent.

Individual income tax revenue in 1983 was about $40 billion below the level that would have resulted if all incomes and deductible expenses had grown at the same rate as average personal income per capita between 1980 and 1983, and if average tax rates had been held constant. As mentioned above, the estimated reduction in revenue can be decomposed into two parts: (1) a "static" component attributable to the direct effect of the tax cuts measured at a constant 1983 level and distribution of income and (2) a component labelled "feedback and other" attributable only to changes in the distribution, but not the level, of income between 1980 and 1983.

The component labelled "feedback and other" includes changes in taxable income that may be tax-induced, but also could be independent of changes in the law. These changes include increases in realized capital gains and earnings, shifts from tax-exempt or tax-deferred income to taxable income, and reductions in tax-deductible expenditures. They may have been induced by changes in the tax law, but may also have been caused by other economic events, such as the 1981-1982 recession, the stock market boom in 1982-1983, changes in market interest rates and deregulation of financial institutions. Because total income growth in the no tax change case is assumed to be the same as actual growth, the question of the effect of the tax cuts on total economic growth is not addressed.

STATIC EFFECTS

The static analysis of ERTA shows that the direct benefit from tax changes between 1980 and 1983 was proportionately greater in the highest income groups. At a 1983 level and distribution of income, tax payments in the top percentile of tax returns were about 15 percent less than they would have been if 1980 tax law had remained in effect but had been indexed to average growth in per capita personal income. In contrast, tax payments in the second quartile of returns were 9 percent lower than they would have been under indexed 1980 law while tax payments in the bottom half of the income distribution were 3 percent higher than they would have been under indexed 1980 law.

This pattern of tax changes resulted from a combination of factors. The benefits from the reduction in marginal tax rates were distributed proportionately across income classes. The benefits from the major changes in the definition of the tax base went primarily to taxpayers in the upper part of the income distribution. The reduction of the value of personal exemptions, the ZBA, and bracket widths relative to income raised taxes proportionately the most for taxpayers in the bottom half of the income distribution. Consequently, when measured at the 1983 level and distribution of income, the relative position of taxpayers in the bottom half of the income distribution worsened between 1980 and 1983, while the position of taxpayers in the top 1 percent of the income distribution improved the most.

The static effect is the best measure of the initial impact of tax policy changes on the well-being of taxpayers. But such changes can also affect the economic decisions of taxpayers, who can increase their benefits or reduce their losses by changing their behavior. These behavioral changes may increase or decrease taxes paid, but will always make taxpayers better off than they were immediately after the change in tax policy. For example, if high-income taxpayers choose to sell assets so as to realize more capital gains when tax rates are lowered, their tax payments will increase but this will be more than offset by the in-

crease in the value to them of higher realized income. Because the total change in the distribution of tax payments may include some induced behavioral response, it does not accurately reflect the distribution of benefits from tax changes.

FEEDBACK AND OTHER EFFECTS

The study finds no evidence that behavioral responses to the tax cuts resulted in any overall revenue feedback effects for the vast majority of the taxpaying population. In the aggregate, changes in the distribution of income, the use of deductions, and the realization of taxable income relative to total personal income are estimated to have had virtually no effect on total taxes paid. The estimated total revenue loss of $39.5 billion was slightly greater than the estimated static loss of $38 billion.

For the top percentile, however, "feedback and other" effects offset over half (about 60 percent) of the static revenue reduction. Virtually all of this was accounted for by increased realizations of capital gains and increased wage and salary income. It is plausible that the higher incomes may have resulted from changes in behavior induced by the tax rate changes, which increased marginal after-tax income per dollar of pretax capital gains and wages by a greater percentage for people in this group than for other taxpayers.

The increase in capital gains in the top percentile between 1980 and 1983 can be explained in part by the reduction in marginal rates on capital gains and in part by the fact that over time realized capital gains have been rising proportionately faster than other income and also stock prices. The 1983 increase in capital gains realizations, however, was much larger than predicted by historical relationships, suggesting that tax rates were not responsible for all of the increase. The growth in wage and salary income in the top percentile may also be attributed in part to behavioral responses. However, in light of estimates from studies of labor supply behavior, the increase in wage and salary income exceeded the expected response to lower marginal tax rates. Another reason for the relatively larger wage and salary growth in high-income groups may have been the increase in unemployment between 1980 and 1983, because high unemployment disproportionately reduces earnings growth for low-income groups.

Once more, it is important to emphasize that this study does not incorporate all possible types of behavioral and feedback effects and in particular assumes that the overall growth rate of income was unaffected by the tax changes. Estimation of the effect of the tax changes on the overall growth rate during the 1980-1983 period is very difficult. It can be said, however, that the effect would have had to be very large to contradict the study's finding that the tax cut of 1981, as modified by TEFRA, reduced tax revenues. The over-

all growth rate was probably somewhat affected by behavioral responses, however, and such responses may have more effect in the longer run.

The study does provide insight into the differences among behavioral responses of specific income groups to changes in tax rates and suggests that future researchers should carefully examine such responses by the highest income class, especially the effect on capital gains realizations.

CHAPTER I

INTRODUCTION

BACKGROUND

In the Economic Recovery Tax Act of 1981 (ERTA), the Congress lowered the top marginal tax rate from 70 percent to 50 percent, reduced other marginal tax rates across the board by 23 percent over a three-year period, and enacted a number of other provisions that reduced individual income tax payments. These provisions included a new deduction for married couples when both spouses work and a substantial liberalization of the deduction for contributions to tax-deferred individual retirement accounts (IRAs). ERTA also lowered taxes on the business income of both individuals and corporations by allowing more accelerated depreciation deductions, expanding the investment tax credit, and introducing a number of new investment incentives, including a new credit for research and experimentation. Later, the corporate tax reductions in ERTA were partially offset by provisions in the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA) that scaled back the accelerated depreciation benefits in ERTA, repealed safe harbor leasing, and reduced a number of other corporate tax preferences.

This paper assesses the effects of ERTA and TEFRA on the distribution of individual income taxes and the distribution of after-tax income between 1980 and 1983, based on data from individual income tax returns. Changes in tax law can affect tax liability both directly, by changing the method of computing tax liability for a given level of income, and indirectly, by inducing changes in the working, spending, or investment behavior of taxpayers in ways that alter the tax base. A major concern of the paper is to examine the extent to which behavior induced by the tax changes may itself have affected the distribution of tax payments.

To analyze this issue, the distributional data are evaluated from three related perspectives. First, the study shows how the distribution of taxes paid and after-tax income actually changed between 1980 and 1983 and how much different components of income and deductions contributed to the changes in the distribution of taxes paid. Second, it shows the changes in the distribution of taxes and after-tax income attributable only to changes in the tax law, holding the 1983 distribution of income fixed. This can be called the "static" effect of the tax policy changes, since its calculation is based on the assumption that

the tax base was unaffected by any changes in incentives associated with changes in the tax law. The paper then compares the "static" changes in the distribution of tax payments to the actual changes to estimate the distributional effects of induced or behavioral responses to the tax changes.

The paper pays particular attention to changes in tax payments by taxpayers in the top percentile of the income distribution. Very-high-income taxpayers are emphasized because induced behavioral responses to the tax cuts were most important for them.

METHODOLOGICAL ISSUES

Any measurement of the behavioral effects of tax policy changes must be conjectural at best. Tax payments that would have been made if there had been no induced changes in economic behavior cannot be observed; however, an estimate of this is needed as a baseline against which actual tax payments can be compared. Many factors other than behavioral responses to taxation can alter the level and distribution of incomes and tax payments. A simple comparison between tax payments before and after the policy change is clearly faulty because incomes and taxes generally grow over time. Exactly how much income and the use of deductions in different income groups would have grown if tax policy had remained fixed is, however, unknown.

It should be further noted that any apparent induced behavioral changes measured over a three-year period can misrepresent the long-run effect of tax changes because some induced effects will occur only over a long period of time, while some measurable short-term effects may only be temporary. For example, induced effects on revenues attributable to induced saving will be trivial in the first few years after the tax change because a higher savings rate will initially have very little effect on the overall size of the capital stock, and thus on national income and product. Even if there is a significant induced effect on the savings rate, the long run revenue gains will take years to materialize. Alternatively, taxpayers may accelerate deductions and delay recognition of income in the first years of a tax change in anticipation of lower rates (especially if legislated rate changes are phased in gradually) or may be encouraged by rate reductions to accelerate realizations of capital gains from old investments (leaving fewer remaining gains to be realized in later years)--both temporary reactions to tax changes.

Construction of the Baseline

In the analysis in this paper, the 1983 baseline data are constructed by increasing all income items and deductible expenses reported on 1980 returns by the average growth rate of nominal personal income per capita between 1980 and 1983. That is, the baseline assumes that ERTA and TEFRA did not affect the

overall growth of the economy in that period. In fact, nominal income grew more slowly between 1980 and 1983 than in the late 1970s, as the economy dropped into a major recession and the inflation rate declined. Income growth might have been even lower if the tax cuts had not been enacted.[1]

Thus, any inferences about the effects of ERTA and TEFRA on behavior in this paper focus mostly on how the tax changes may have affected the distribution of income among groups. That is, the use of this baseline permits one to identify a possible behavioral response if groups that experienced a relatively large tax rate reduction also experienced a larger-than-average growth in income between 1980 and 1983. A behavioral response can also be identified if taxable income increased relative to total personal income. An increase in taxable income relative to personal income could reflect taxpayer behavior either through an increase in the ratio of taxable to nontaxable sources of income [2] or through a decrease in the ratio of deductible expenses to income. [3]

To summarize, possible induced revenue gains from lowering tax rates can be identified in two situations. One is where the use of deductions allowable on the same terms in 1983 as in 1980 decreased, and income from taxable sources increased, relative to total personal income. The other is where the distribution of taxable income shifted toward higher-income groups with relatively higher tax rates.

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1. Nominal personal income per capita increased by 21.9 percent between 1980 and 1983, compared to a growth of 35.9 percent in the preceding three years. Part of the decline in the growth rate of income in the first three years including and following the enactment of ERTA can be attributed to the decline in the rate of inflation after 1981 and part to the decline in real income during the 1981-82 recession. (Real personal income per capita--measured as personal income deflated by the GNP deflator for personal consumption expenditures--increased by only 1.6 percent between 1980 and 1983, compared to an increase of 4.7 percent in the preceding three years.) Given the strong influence of monetary policy, the overall federal budget, and other factors on short-term economic fluctuations, the data do not permit any inferences on whether the tax cut added to, partially offset, or had no relationship to the slower growth in nominal personal income per capita during this period.

2. This could occur in several ways. A rise in the ratio of money wages and salaries to personal compensation would increase the share of income that is taxable because most nonmonetary compensation (in particular, employer contributions to qualified retirement plans and to medical insurance plans) is tax-exempt. A rise in the proportion of investment income that is taxable would occur if people held relatively fewer tax-sheltered investments. An increase in the ratio of capital gains realizations to personal income would also increase the ratio of taxable income to personal income because realized capital gains are not included in personal income, as measured in the national income and product accounts.

3. The major deductions that could change relative to income, because of behavioral responses, are deductions for interest paid, charitable contributions, and medical expenses. The amount of state and local taxes deducted could also change, but that would involve changes in tax law by states and localities that might or might not be a response to changes in federal taxation.

Static Effects

The direct effects of changes in tax rates and the legal definition of the tax base on tax liabilities will be measured separately and labelled static effects. These include changes in taxes paid brought about by the major 1981 and 1982 changes in the tax law. Major changes in the tax law affecting individuals in 1983 include the reduction in marginal tax rates between 1980 and 1983, the liberalization of IRA provisions, and the introduction of the second-earner deduction. Static effects also include offsetting increases in average tax rates that occurred as nominal income growth moved taxpayers into higher tax rate brackets and eroded the relative size of personal exemptions and the zero bracket amount (ZBA). [4] The rate cuts and other major provisions in ERTA more than offset this effect of "bracket creep" for the top income groups, but not for the bottom half of the income distribution (see Chapter III).

TABLE I.1. STEPS IN CONSTRUCTION OF BASELINE AND IN THE MEASUREMENT OF STATIC AND FEEDBACK EFFECTS

	Income Level	Tax Law	Income Distribution
(1) Actual 1980	1980	1980	1980
(2) Baseline a/	1983	1980, indexed	1980
(3) 1980 Law on 1983 Incomes	1983	1980, indexed	1983
(4) Actual 1983	1983	1983	1983

NOTE: Total Change = (4) minus (2)
Static Effect = (4) minus (3)
Feedback and Other = (3) minus (2)

a. Personal exemptions, ZBA, and bracket widths indexed to growth in nominal personal income per capita between 1980 and 1983.

4. This phenomenon is referred to as "bracket creep." ERTA included a provision that indexed personal exemptions, the ZBA, and the width of other rate brackets to changes in the Consumer Price Index, for tax years beginning in 1985. As a result, taxpayers no longer are moved into higher tax brackets by inflation, although there remains some "bracket creep" from real economic growth. Between 1980 and 1983, both inflation and real growth automatically moved taxpayers into higher tax brackets, thus eroding part of the benefit from lower statutory tax rates.

Table I.1 summarizes the steps used to construct the baseline and to measure changes in taxes paid by different income groups, beginning with actual 1980 data (line 1). The 1983 baseline (line 2) represents the levels of income and taxes that would have been paid in 1983 under indexed 1980 tax law. As noted above, baseline levels of income and deductions per tax return for each income group are computed by multiplying the actual 1980 levels by the ratio of per-capita personal income in 1983 to per-capita personal income in 1980. Thus, all incomes are increased to 1983 levels while the 1980 distribution is maintained. The 1980 tax rate structure and allowable deductions are also maintained, but the value of personal exemptions, the ZBA, and bracket widths are multiplied by the ratio of 1983 to 1980 personal income per capita in order to keep average tax rates unchanged (defined here as "indexed law").[5] This indexed 1980 tax law is then applied to baseline 1983 incomes to compute baseline taxes.

The total revenue change is measured as the difference between lines 4 and 2, where line 4 is actual taxes paid in 1983. The change from line 2 to line 4 is then subdivided into two parts by estimating taxes that would have been paid if indexed 1980 law had been applied to actual 1983 incomes (line 3). The difference between lines 2 and 3 is the revenue effect of changes in the distribution of income under 1980 tax law. This part is labelled "feedback and other" because it includes changes in revenues that may have been induced by behavioral responses to the new tax rates. The difference between lines 3 and 4 is labelled the "static" effect because it measures the change in revenues attributable only to changes in the tax law applied to fixed incomes.

The Problem of Rank Reversals

The data base used for the comparisons of 1980 and 1983 income and taxes is the Public Use Individual Income Tax Model File produced by the Statistics of Income (SOI) Division of the Internal Revenue Service. The SOI data file is a stratified sample of over 120,000 tax returns, weighted to add up to the total taxpaying population. The study uses separate SOI data files produced for 1980 and 1983 tax returns.

One limitation of these data files for comparisons of taxes paid over time is that they do not allow the tracking of the same taxpayers in different years. Therefore, these data provide fully accurate measures of changes in income and taxes for any given group of people only if people stay within the same income groups over time. Thus, a statement that the top income group experien-

5. Note that the personal exemptions, ZBA, and bracket widths are greater under indexed 1980 law than under actual 1983 law.

ced an above average growth in income does not necessarily mean that individual taxpayers who were in the top group in 1980 actually experienced that income growth. It is possible that some people in the top group in 1980 experienced little growth and were in lower groups in 1983, while others starting below the top group in 1980 moved into the top group in 1983. A large growth in income of this latter group could cause aggregate income in the top group in 1983 to be much higher than income in the top group (composed of a different population) in 1980.

This movement of taxpayers between income groups can be referred to as "rank reversal." Rank reversals would cause serious problems in interpreting the results only if many taxpayers switched their relative position in income groupings between 1980 and 1983. If relative rankings in the income distribution are fairly stable, the problem is minimized and use of the data to show how taxes and incomes changed for particular groups in the population can be justified. In any case, the data show unambiguously how the size distribution of income, taxes paid, and other items on the data file changed between the two years, even though the change in income cannot be calculated for any chosen group of individual taxpayers. [6]

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6. If one had a panel file that sampled the same group of taxpayers every year, one could see whether taxpayers were shifting between income groups. Such a data file was not available to CBO. Even if it were, however, the interpretation of changes in income and taxes within income groups could be ambiguous if there are rank reversals. For example, suppose some taxpayers in the top income group in 1980 fall out of that group by 1983, while others move into the top group. If income in the top group is growing, a comparison between income in the top group in 1983 and income in the top group in 1980 overstates the growth of income of taxpayers who were in the top group in 1980 because their income is below the average for the 1983 top group. At the same time, such a comparison understates the growth of income for people in the top group in 1983 because they had income below the average for the 1980 top group. This problem occurs because there is more than one measure of the "top" group when taxpayers are moving between groups.

Comparison with Methodology of Earlier Work

A number of earlier analyses have concluded that ERTA increased the share of taxes paid by the highest income group. Some have inferred that ERTA therefore improved the "fairness" of the tax system.[7] Others have criticized these analyses on a number of methodological grounds.[8] This study differs from earlier work in the following respects:

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7. See, for example, "Tricklenomics,", *The Wall Street Journal* editorial, April 11, 1984; "The Panic of 1984," *The Wall Street Journal* editorial, May 7, 1984; James Gwartney and Richard Stroup, "The Redistributionist Tax Reduction," *The Wall Street Journal*, June 26, 1984; Richard Vedder and Phillippe Watel, "The Impact of Marginal Tax Rate Changes in the United States, 1954-82," *Tax Notes*, November 19, 1984; Richard Vedder and Lowell Gallaway, "The Changing Burden of the Federal Individual Income Tax, 1981-1983," *Tax Notes*, March 25, 1985; and Richard Vedder and Lowell Gallaway, "Income Shares and the Supply Side: A Reply," *Tax Notes*, June 10, 1985.

   The most detailed and sophisticated of these studies is the work by Lawrence Lindsey. See Lawrence B. Lindsey, "Taxpayer Behavior and the Distribution of the 1982 Tax Cut" (Cambridge, MA: National Bureau of Economic Research, October 1985), Working Paper No. 1760; and Lawrence B. Lindsey, "Estimating the Revenue-Maximizing Top Personal Tax Rate," NBER Working Paper No. 1761, 1985. Lindsey also compares the actual distribution of income to an explicit, projected baseline and uses this comparison to estimate how ERTA affected the distribution of tax payments in 1982.

   Appendix A provides a brief chronology of other articles and studies on this topic and a more detailed comparison of the methodology used in this study with that used by Lindsey.

8. See, for example, John Berry, "Tax Cuts Aren't Working As Promised," *Washington Post*, April 22, 1984; Joseph Minarik, "The Tax Shares Boomlet," *Tax Notes*, June 11, 1984; Kenneth Simonson, "Supply Side Tax Changes: Do They Soak the Rich or Sock it to the Poor?" *Tax Notes*, June 11, 1984; Donald Kiefer, "The 1982 Tax Return Data and Supply-Side Responses to the Tax Cut: Manifestation or Mirage?" Congressional Research Service Report 84-702E (July 31, 1984); Michael Schuyler, "The Fairness of the 1981 Tax Reductions," *Tax Notes*, August 20, 1984; and Albert J. Davis, "Income Tax Shares and the Supply Side: A Comment on Vedder and Gallaway," *Tax Notes*, April 15, 1985. Some of these articles criticize the analyses that conclude that the 1981 tax act improved the fairness of the tax system, while others caution that it is too early to draw definitive conclusions.

Grouping by Percentile. Some of the earlier work looked at published data on the changes in tax payments by fixed income group and found, for example, that the share of taxes paid by those with incomes over $100,000 increased after 1981. [9] A finding that the share of taxes paid by those above a fixed dollar-denominated level of income increased over time is, however, meaningless because inflation and economic growth tend to move returns into higher income classes each year. This problem is avoided by ranking taxpayers by percentile of the distribution, instead of by an income level.[10]

Classification by Expanded Adjusted Gross Income. Previous analyses have ranked taxpayers by level of adjusted gross income (AGI). One problem with using AGI as a measure of income for such studies is that the definition of AGI in the tax law was changed in significant ways between 1980 and 1983. These changes affected both exclusions from gross income and adjustments to income. The most important changes were the liberalization of deductions from gross income for contributions to IRAs and the introduction of a new deduction for two-earner married couples. In addition, the $100 dividend exclusion was replaced by a $200 exclusion for both interest and dividends in tax year 1982 and a portion of interest (from "All-Savers" Accounts) was excluded from AGI in 1982 and 1983. To derive a consistent income classifier, CBO added back IRAs, second earner deductions, and other exclusions from gross income that are reported on tax returns (including the capital gains deduction) to obtain a broader measure of income, referred to here as expanded adjusted gross income (EAGI).[11] (Appendix B describes EAGI in detail.)

In this study, returns are ranked by EAGI and grouped by percentiles of the EAGI distribution. The percentile groups used are: (1) the top percentile of tax returns, (2) the 2nd-5th percentiles, (3) the 6th-25th percentiles, (4) the 26-50th percentiles, and (5) the 51st-95th percentiles. Table I.2 shows the per-

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9. See, for example, *Wall Street Journal*, "Tricklenomics," *Wall Street Journal*, "Panic of 1984," and Vedder and Watel, "Impact of Marginal Tax Rate Changes."

10. A number of analyses rank taxayers by percentile in the distribution of adjusted gross income (AGI). These include Lindsey, "Taxpayer Behavior," Gwartney and Stroup, "Redistributionist Tax Reduction," Vedder and Gallaway, "Changing Burden of the Federal Income Tax," Davis, "Comment on Vedder and Gallaway," and Vedder and Gallaway," A Reply." As discussed below, this study classified tax returns by percentile of expanded adjusted gross income (EAGI), a more comprehensive measure of income than AGI.

    Classification by EAGI percentile, however, does not remove the problem of rank reversals, as discussed above.

11. The definition of EAGI also changed slightly because changes in depreciation rules affected the measurement of business, partnership, and farm income. Thus, a taxpayer holding shares of a partnership might experience a reduction in EAGI because of reduced partnership income, even though that reduced income reflected changes in the timing of allowable depreciation deductions by the partnership rather than any change in a consistent measure of net profits.

centile groups and corresponding EAGI levels for the return with the least EAGI in each group.

TABLE I.2. EXPANDED ADJUSTED GROSS INCOME GROUPS (In thousands)

	Expanded Adjusted Gross Income Group				
	Group 1 (1%)	Group 2 (2-5%)	Group 3 (6-25%)	Group 4 (26-50%)	Group 5 (51-95%)
	Dollar Cut-Offs a/				
1980	85,860	44,820	23,820	12,930	1,240
1981	102,970	53,010	27,270	14,970	1,430
1982	97,340	51,360	27,500	14,590	1,420
1983	103,820	55,110	28,690	15,210	1,410

a. The dollar cut-off is the minimum EAGI needed to fall within the appropriate percentile grouping.

Measurement of Static Effects. Previous analyses discuss how the distribution of tax payments changed after enactment of ERTA, but generally do not fully specify the static changes from which behavioral responses are measured. In some analyses, ERTA is represented as an across-the-board proportional tax cut, with a slightly higher reduction in the maximum marginal tax rate. This representation does not take account of other important details of tax law, such as the changes in the IRA deduction and the second earner deduction and the existence of the maximum tax rate on earned income prior to 1982. It also ignores the effects of bracket creep due to nominal income growth on the distribution of the tax burden. In contrast, this study constructs a static baseline that includes all of these elements.

Detailed Examination of Components of Change. Previous analyses compare aggregate changes in taxes paid by different income groups, but do not look closely at how different components of the tax base changed.[12] This study looks closely at separate components of the tax base, such as changes in capital gains, wages and salaries, and dividends, and changes in the use of different itemized deductions. These changes are compared with changes in marginal tax rates by income group, in order to make some judgment about what changes

12. An exception is Vedder and Gallaway, "The Changing Burden," who report an increase in "entrepreneurial income" in the top groups. In contrast, the very detailed study by Lindsey does not examine how different components of income were affected by changes in the tax law. See Lindsey, "Taxpayer Behavior."